

**WHAT IS CLAIMED IS:****1. A pressure cooker, comprising:**

a cooking pot having an open end through which food articles are introduced for cooking, and removed after cooking;

and a lid removably attachable over the open end of said cooking pot and securely lockable thereto to enable cooking at high pressure;

said cooking pot being formed with a plurality of circumferentially-spaced locking flanges extending radially inwardly around its open end;

said lid being formed with a plurality of circumferentially-spaced locking flanges extending radially outwardly around its outer periphery located to enable the lid:

(a) to be applied over the open end of the cooking pot by passing the lid flanges through the spaces between the cooking pot flanges; and

(b) to be rotated to either a locking position wherein the lid flanges underlie the cooking pot flanges to securely lock the lid to the cooking pot, or to an unlocking position wherein the lid flanges are in the spaces between the cooking pot flanges to enable detachment of the lid from the cooking pot.

**2. The pressure cooker according to Claim 1, wherein:**

said open end of the cooking pot is formed with an annular seat underlying said cooking pot flanges;

and an annular gasket is seated on said annular seat for sealing the space between said cooking pot and lid when the lid is applied and securely locked to the cooking pot.

3. The pressure cooker according to Claim 1, wherein said cooking pot includes a pair of gripping handles fixed at opposite sides of its open end.

**4. The pressure cooker according to Claim 1, wherein:**

said lid further includes a gripping handle fixed thereto along its outer periphery;

and said cooking pot further includes at least one gripping handle fixed thereto at its open end and located to underlie said lid handle, and to be locked thereto, in the locking position of the lid.

5. The pressure cooker according to Claim 4, wherein:

a venting valve movable to an open position to vent the interior of the cooking pot to the atmosphere, or to a closed position to permit the pressure in the cooking pot to rise to a super-atmospheric pressure;

and a safety interlock within said gripping handle of the lid permitting rotation of the lid from one of its positions to its other position only when said valve is in its open position, and permitting movement of the valve from its open position to its closed position only when the lid is in its locking position with respect to the cooking pot.

6. The pressure cooker according to Claim 5, wherein:

said venting valve includes a floating pin movable vertically within a venting opening in said lid;

said floating pin is movable by gravity to a lower position opening said venting opening, and by steam pressure to an upper position closing said venting opening;

said safety interlock includes a control member blocking the movement of said floating pin to its upper closed position except when said locking element is in its locking position, to prevent pressurizing the interior of the cooking pot; and

said floating pin, when in its upper closed position, blocks the movement of the control member to the unlocking position of the locking element, to prevent opening the lid when the cooking pot is under pressure.

7. The pressure cooker according to Claim 6, wherein said control member is a slide coupled at one end to said locking element and formed at its opposite end with an opening located to receive said floating pin only when the locking element is in its locking position.

8. The pressure cooker according to Claim 4, wherein:

said lid further includes an auxiliary handle diametrically opposite to said gripping handle in the lid to facilitate rotating said lid with respect to said cooking pot.

9. The pressure cooker according to Claim 8, wherein said auxiliary handle of the lid includes:

a pressure release valve having a venting passageway through the lid normally closed by a weight to permit pressurizing the interior of the cooking pot;

and a release member manually movable to lift said weight and thereby to permit rapid release of the pressure within the interior of the cooking pot.

10. The pressure cooker according to Claim 9, wherein said release member includes:

a pushbutton manually movable by the user to a closed position or to a rapid-release position;

and a pivotal lever having one end movable by said pushbutton, and an opposite end engageable with said weight to lift the weight to its open position with respect to said venting passageway upon movement of the pushbutton to its rapid-release position.

11. The pressure cooker according to Claim 10, wherein:

said venting passageway through the lid is in a vertical stem having an axial passageway therethrough and located centrally of a cavity formed in the lid;

and said weight is removably received in said cavity normally engaging the upper end of the stem passageway to close same, said weight being liftable by excessive pressure within the cooking pot, and by said pivotal lever when pivotted by said slide button, to produce a rapid-release of the pressure within the cooking pot.

12. A pressure cooker, comprising:

a cooking pot having an open end through which food articles are introduced for cooking, and removed after cooking;

and a lid removably attachable over the open end of said cooking pot and securely lockable thereto to enable cooking at high pressure;

said lid including a gripping handle fixed thereto along its outer periphery;

said cooking pot including at least one gripping handle fixed thereto at its open end and located to underlie said lid handle, and to be locked thereto, in the locking position of the lid;

said lid further including:

a venting valve movable to an open position to vent the interior of the cooking pot to the atmosphere, or to a closed position to permit the pressure in the cooking pot to rise to a super-atmospheric pressure;

and a safety interlock within said gripping handle of the lid permitting rotation of the lid from one of its positions to its other position only when said valve is in its open position, and permitting movement of the valve from its open position to its closed position only when the lid is in its locking position with respect to the cooking pot.

13. The pressure cooker according to Claim 12, wherein:

said venting valve includes a floating pin movable vertically within a venting opening in said lid;

said floating pin is movable by gravity to a lower position opening said venting opening, and by steam pressure to an upper position closing said venting opening;

said safety interlock includes a control member blocking the movement of said floating pin to its upper closed position except when said locking element is in its locking position, to prevent pressurizing the interior of the cooking pot; and

said floating pin, when in its upper closed position, blocks the movement of the control member to the unlocking position of the locking element, to prevent opening the lid when the cooking pot is under pressure.

14. The pressure cooker according to Claim 13, wherein said control member is a slide coupled at one end to said locking element and formed at its opposite end with an opening located to receive said floating pin only when the locking element is in its locking position.

15. The pressure cooker according to Claim 14, wherein said locking element of the slide is movable within a shaped recess in said underlying gripping handle of the cooking pot to said locking position or to said unlocking position with respect to said cooking pot.

~~16.~~ A pressure cooker, comprising:

a cooking pot having an open end through which food articles are introduced for cooking, and removed after cooking;

and a lid removably attachable over the open end of said cooking pot and securely lockable thereto to enable cooking at high pressure;

said lid including a gripping handle fixed to the lid at one side of its outer periphery, and an auxiliary handle fixed to the lid at the opposite side of its outer periphery;

said cooking pot including two gripping handles fixed to opposite sides of the open end of the cooking pot, such as to enable a user to grasp by two hands one handle of the lid and one handle of the cooking pot and to rotate the lid with respect to the cooking pot to the locking and unlocking positions of the lid.

17. The pressure cooker according to Claim 16, wherein said lid auxiliary handle includes:

a pressure release valve having a venting passageway therethrough normally closed by a weight to permit pressurizing the interior of the cooking pot;

and a release member manually movable to lift said weight and thereby to permit rapid release of the pressure within the interior of the cooking pot.

18. The pressure cooker according to Claim 17, wherein said release member includes:

a pushbutton manually movable by the user to a closed position or to a rapid-release position;

and a pivotal lever having one end movable by said pushbutton, and an opposite end engageable with said weight to lift the weight to its open position with respect to said venting passageway upon movement of the pushbutton to its rapid-release position.

19. The pressure cooker according to Claim 17, wherein:

said venting passageway through the lid is in the form of a vertical stem having an axial passageway therethrough and located centrally of a cavity formed in said auxiliary handle of the lid;

and said weight is located in said cavity and normally engages the upper end of the stem passageway to close same, but is liftable by excessive pressure within the cooking pot, and by said pivotal lever when pivotted by said pushbutton, to produce a rapid-release of the pressure within the cooking pot.

20. The pressure cooker according to Claim 1, wherein the pressure cooker further comprises an outer housing for receiving a heating liquid, and has an open end for receiving said cooking pot to be heated by the heating liquid within said outer housing.